WHAT IS CLAIMED IS:

1. A system for receiving an OFDM signal, comprising:

an AD converter configured to sample a received signal at a first sampling rate;

a low pass filter configured to remove selected noise from a signal outputted from said AD converter;

a rate converter configured to extract data from a signal outputted from said low pass filter at a second sampling rate;

an OFDM signal decoding circuit configured to convert and decode a signal outputted from said rate converter from a time domain to a frequency domain; and

an error correction circuit configured to correct errors of a signal outputted from said OFDM signal decoding circuit,

wherein said low pass filter is a filter capable of varying a frequency characteristic in response to said first sampling rate.

2. The system for receiving an OFDM signal according to claim 1, wherein said low pass filter is an FIR filter.

3. The system for receiving an OFDM signal according to claim 1, further comprising:

an interpolation processing circuit configured to interpolate data at a desired time in the case where there is no data at the time,

wherein said rate converter extracts data including said interpolated data at said second sampling rate.

4. The system for receiving an OFDM signal according to claim 3, wherein said interpolation processing circuit interpolates said

data at said desired time between data sampled in said AD converter by any of a straight line and a high-order function.

5. The system for receiving an OFDM signal according to claim 1, further comprising:

a modulation system detecting circuit configured to detect a modulation system of said received signal,

wherein said first sampling rate is changed in response to the modulation system detected in said modulation system detecting circuit.

6. The system for receiving an OFDM signal according to claim 5,

wherein said first sampling rate is lowered in the case where a transmission rate in said detected modulation system is slow.

7. A system for receiving an OFDM signal, comprising:

an AD converter configured to sample a received signal at a first sampling rate;

a low pass filter configured to remove selected noise from a signal outputted from said AD converter;

a rate converter configured to extract data from a signal outputted from said low pass filter at a second sampling rate;

an OFDM signal decoding circuit configured to convert and decode a signal outputted from said rate converter from a time domain to a frequency domain;

an error correction circuit configured to correct errors of a signal outputted from said OFDM signal decoding circuit; and

a modulation system detecting circuit configured to detect a modulation system of said received signal,

wherein an operational unit of said AD converter changes the number of sampling bits in response to the modulation system detected in said modulation system detecting circuit.

8. The system for receiving an OFDM signal according to any one of claims 7,

wherein, in response to said detected modulation system, said operational unit includes:

a first shift circuit which sets first data close to a side of the most significant bit and sets "0" data close to a side of the least significant bit;

a second shift circuit which sets second data close to the side of the most significant bit and sets "0" data close to the side of the least significant bit; and

an operational circuit operating data outputted from said first and second shift circuits.

9. The system for receiving an OFDM signal according to claim 8, further comprising:

a power source voltage controlling circuit controlling a power source voltage in response to said detected modulation system,

wherein the power source voltage is lowered in the case where a critical path of said operational unit is shortened.

10. The system for receiving an OFDM signal according to claim 7,

wherein an operational unit of said low pass filter changes the number of operational bits in response to any of said detected modulation system and said number of sampling bits.

11. The system for receiving an OFDM signal according to any one of claims 10,

wherein, in response to said detected modulation system, said operational unit includes:

a first shift circuit which sets first data close to a side of the most significant bit and sets "0" data close to a side of the least significant bit;

a second shift circuit which sets second data close to the side of the most significant bit and sets "0" data close to the side of the least significant bit; and

an operational circuit operating data outputted from said first and second shift circuits.

12. The system for receiving an OFDM signal according to claim 11, further comprising:

a power source voltage controlling circuit controlling a power source voltage in response to said detected modulation system,

wherein the power source voltage is lowered in the case where a critical path of said operational unit is shortened.

13. The system for receiving an OFDM signal according to claim 7,

wherein an operational unit of said rate converter changes the number of operational bits in response to any of said detected modulation system and said number of sampling bits.

14. The system for receiving an OFDM signal according to any one of claims 13,

wherein, in response to said detected modulation system, said operational unit includes:

a first shift circuit which sets first data close to a side of the most significant bit and sets "0" data close to a side of the least significant bit;

a second shift circuit which sets second data close to the side of the most significant bit and sets "0" data close to the side of the least significant bit; and

an operational circuit operating data outputted from said first and second shift circuits.

15. The system for receiving an OFDM signal according to claim 14, further comprising:

a power source voltage controlling circuit controlling a power source voltage in response to said detected modulation system,

wherein the power source voltage is lowered in the case where a critical path of said operational unit is shortened.

16. The system for receiving an OFDM signal according to claim 7,

wherein an operational unit of said OFDM signal decoding circuit changes the number of operational bits in response to any of said detected modulation system and said number of sampling bits.

17. The system for receiving an OFDM signal according to any one of claims 16,

wherein, in response to said detected modulation system, said operational unit includes:

a first shift circuit which sets first data close to a side of the most significant bit and sets "0" data close to a side of the least significant bit;

a second shift circuit which sets second data close to the side

of the most significant bit and sets "0" data close to the side of the least significant bit; and

an operational circuit operating data outputted from said first and second shift circuits.

18. The system for receiving an OFDM signal according to claim 17, further comprising:

a power source voltage controlling circuit controlling a power source voltage in response to said detected modulation system,

wherein the power source voltage is lowered in the case where a critical path of said operational unit is shortened.

19. The system for receiving an OFDM signal according to claim 7,

wherein said error correction circuit changes the number of bits for soft decision, alternatively changes the decision to hard decision in response to any of said detected modulation system and said number of sampling bits.

20. The system for receiving an OFDM signal according to any one of claims 19,

wherein, in response to said detected modulation system, said operational unit includes:

a first shift circuit which sets first data close to a side of the most significant bit and sets "0" data close to a side of the least significant bit;

a second shift circuit which sets second data close to the side of the most significant bit and sets "0" data close to the side of the least significant bit; and

an operational circuit operating data outputted from said first

and second shift circuits.

21. The system for receiving an OFDM signal according to claim 20, further comprising:

a power source voltage controlling circuit controlling a power source voltage in response to said detected modulation system,

wherein the power source voltage is lowered in the case where a critical path of said operational unit is shortened.

22. A method for receiving an OFDM signal, comprising:

sampling a received signal at a first sampling rate;

removing selected noise from said signal sampled at said first sampling rate;

extracting data form said signal removed at a second sampling rate;

converting and decoding said signal extracted from a time domain to a frequency domain; and

correcting an error of said signal decoded,

wherein a frequency characteristic in said removing is variable in response to said first sampling rate.

23. A method for receiving an OFDM signal, comprising:

sampling a received signal at a first sampling rate;

removing selected noise from said signal sampled at said first sampling rate;

extracting data from said signal removed at a second sampling rate;

converting and decoding said signal extracted from a time domain to a frequency domain;

correcting an error of said signal decoding; and,

detecting a modulation system of said received signal,

wherein the number of sampling bits in said sampling is changed in response to said detected modulation system.